UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,391	04/13/2004	Alan L. Browne	H-205856	3380

7590 10/27/2008

KATHRYN A MARRA
General Motors Corporation
Legal Staff, Mail Code 482-C23-B21
P.O. Box 300
Detroit, MI 48265-3000

EXAMINER	
JEN, MINGJEN	
ART UNIT	PAPER NUMBER
3664	

MAIL DATE	DELIVERY MODE
10/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/823,391	BROWNE ET AL.	
	Examiner	Art Unit	
	IAN JEN	3664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,10-19,26,32,39-46 and 49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,10-19,39-46 and 49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/30/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is response to the amendment filed on July 27th, 17, and 2008.

2. Applicant's remark has been addressed in the response to argument section.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 11-19, 39-46, 49 rejected under 35 U.S.C. 102(b) as being anticipated by Koike (US Pat Pub No 2003/00006889).

As per claim 1, Koike shows a method of predicting severity of a potential collision of first and second vehicles (Abstract, Fig 6), the method comprising: determining a probability of the potential collision of the vehicles (Fig 23, Step 170; Para 0175 – 0184) ; exchanging vehicle condition-defining signals between the first and second vehicles when the probability of the potential collision is greater than a threshold value (Fig 30, S 225; Para 0217 - 0223), the vehicle condition-defining signals including a first vehicle condition-defining signal developed onboard the first vehicle and a second vehicle condition-defining signal developed onboard the

second vehicle (Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 - 0100); predicting onboard the first vehicle a severity of the potential collision for the first vehicle based on input including the first vehicle condition-defining signal and the second vehicle condition-defining signal (Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134) ; and predicting onboard the second vehicle a severity of the potential collision for the second vehicle based on input including the first vehicle condition-defining signal and the second vehicle condition-defining signal (Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134).

As per claim 11, koike shows the probability of the potential collision is greater than the threshold value if the first vehicle is less than a selected distance from the second vehicle (Para 0071 -0081; Para 0110 - 0121).

As per claim 12, koike shows the probability of the potential collision is greater than the threshold value if the vehicles are closing on each other (Para 0071 -0081; Para 0110 -0121).

As per claim 13, koike shows the probability of the potential collision is greater than the threshold value if an estimate of time until the potential collision is less than a selected time period (Para 0071 -0081; Para 0110 -0121; Fig 4B Step22; Para 0098 - 0100).

As per claim 14, koike shows the threshold value indicates that the potential collision is imminent (Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38).

As per claim 15, koike shows the threshold value indicates that the potential collision is nearly imminent (Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38).

As per claim 16, koike predicting the severity of the potential collision for the first vehicle includes estimating the order of potential collision occurrence when potential collisions with more than one vehicle are predicted for the first vehicle (Para 0071 -0081; Para 0110 - 0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 - 0156).

As per claim 17, koike shows predicting the severity of the potential collision for the first vehicle includes estimating vehicle trajectory after the potential collision (Para 0143 – 0157).

As per claim 18, koike shows predicting the severity of the potential collision for the first vehicle includes estimating the location of impact on the first vehicle (Para 0143 – 0157).

As per claim 19, koike shows the vehicle condition-defining signals are developed in response to one or more of vehicle geographic position data, vehicle onboard sensor data, stored vehicle identification data, and pre-collision sensor data (Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 – 0156, Para 0182; sensor section 218).

As per claim 39, koike shows a method of predicting severity of a potential collision of first and second vehicles (Abstract, Fig 6), the method comprising: determining a probability of

the potential collision of the vehicles (Fig 23, Step 170; Para 0175 – 0184); developing a first vehicle condition-defining signal for the first vehicle in response to one or more of first vehicle geographic position data, first vehicle on-board sensor data, first stored vehicle identification data, and first vehicle pre-collision sensor data (Fig 30, S 225; Para 0217 - 0223); and transmitting the first vehicle condition-defining signal to the second vehicle when the probability of the potential collision is greater than a threshold value; and predicting onboard the first vehicle a severity of the potential collision for the first vehicle when the probability of the potential collision is greater than a threshold value (Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 – 0100; Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134; Para 0143 – 0157), wherein input to the predicting includes one or more of the first vehicle geographic position data, the first vehicle on-board sensor data, the first stored vehicle identification data, and the first vehicle pre-collision sensor data (Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 – 0100; Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134; Para 0143 – 0157).

As per claim 40, koike shows receiving a second vehicle condition-defining signal from the second vehicle, wherein the input to the predicting further includes the second vehicle condition-defining signal (Fig 3, Fig 1, other vehicle; Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 – 0156, Para 0182; sensor section 218).

As per claim 41, koike shows the probability of the potential collision is greater than the threshold value if the second vehicle is detected by the first vehicle and wherein the first vehicle

condition-defining signal for the first vehicle announces the presence of the first vehicle to the second vehicle (Para 0064 - 0080; Para 0097 – 0100; Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0143 – 0157).

As per claim 42, koike shows threshold value if the potential collision is predicted to occur within a selected time period and wherein the first vehicle condition-defining signal for the first vehicle announces the presence of the first vehicle to the second vehicle (Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 – 0100; Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54).

As per claim 43, koike shows developing a first vehicle condition-defining signal for the first vehicle occurs when the probability of the potential collision is greater than a threshold value (Fig 30, S 225; Para 0217 - 0223).

As per claim 44,koike shows developing a first vehicle condition-defining signal for the first vehicle occurs on a continuous basis while the first vehicle is being operated (Fig 33, 34; Para 0068 - 0080).

As per claim 45, koike shows a method of predicting severity of a potential collision of first and second vehicles (Abstract, Fig 6), the method comprising: determining a probability of the potential collision of the vehicles (Fig 23, Step 170; Para 0175 – 0184); exchanging vehicle condition-defining signals between the first and second vehicles when the probability of the potential collision is greater than a threshold value (Fig 30, S 225; Para 0217 - 0223), the

vehicle condition-defining signals including a first vehicle condition-defining signal and a second vehicle condition-defining signal (Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 - 0100) ; predicting a severity of the potential collision for the first vehicle based on input including the first vehicle condition-defining signal and the second vehicle condition-defining signal (Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134) ; and predicting a severity of the potential collision for the second vehicle based on input including the first vehicle condition-defining signal and the second vehicle condition-defining signal (Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134).

As per claim 46, koike shows one or more of the determining, exchanging, predicting a severity of the potential collision for the first vehicle, and predicting a severity of the potential collision for the second vehicle is performed by a system that is remote to at least one of the first vehicle and the second vehicle (Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134).

As per claim 49, koike shows an apparatus for use onboard a first vehicle for predicting severity of a potential collision of the first vehicle and a second vehicle (Abstract, Fig 6, Fig 1, ECU 12) , the apparatus comprising: means for determining a probability of a potential collision between the first and second vehicles; means responsive to the determining for transmitting a first vehicle condition-defining signal developed onboard the first vehicle to the second vehicle when the probability of the potential collision is greater than a threshold value (Fig 23, Step 170;

Para 0175 – 0184, Fig 2, Fig 3); means for receiving from the second vehicle a second vehicle condition-defining signal developed onboard the second vehicle (Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 – 0100; Fig 2, Fig 3, Fig 5); and means for processing the first vehicle condition-defining signal and the second vehicle condition-defining signal for predicting the severity of the potential collision (Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134; Fig 2, Fig 3, Fig 5) .

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 10, 26, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike (US Pat Pub 2003/0006889) in view of Ochi et al (US Pat No 5913910).

As per claim 10, koike does not show input to the determining includes driver state data. Ochi et al shows input to the determining includes driver state data (Abstract, Col 5, lines 22-Col 6, lines 24).

It would have been obvious for one of ordinary skill in the art, to provide the driver state data, as taught by Ochi et al, to Koike, in order to provide basic mobile driving input information.

As per claim 26, koike shows the probability of the potential collision is greater than the threshold value (Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 – 0156, Para 0182; sensor section 218), command responsive to the severity of the potential collision for the first vehicle (Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 – 0156, Para 0182; sensor section 218). Koike does not show transmitting a command to set a control on an occupant protection device on the first vehicle.

Ochi et al shows transmitting a command to set a control on an occupant protection device on the vehicle (abstract; Fig 2, brake controller 219, transmission controller 218, ignition timing controller 216; Fig10, Col 5, liens 10 – Col 6,lines 25).

It would have been obvious for one of ordinary skill in the art, to provide protection device as taught by Ochi et al, to koike, in order to avoid potential collision.

As per claim 32, Ochi et al shows a command to an occupant protection device, the command responsive to the probability of the potential collision (abstract; Fig 2, brake controller 219, transmission controller 218, ignition timing controller 216; Fig10, Col 5, liens 10 – Col 6,lines 25; Fig 8, step 804 - 808; Col 4, lines 25 - 65).

It would have been obvious for one of ordinary skill in the art, to provide protection device as taught by Ochi et al, to koike, in order to avoid potential collision.

Response to Arguments

7. Applicant states Koike (US Pat Pub No 2003/00006889) fails to disclose exchange signals after the collision probability is evaluated, rather Koike only disclosed exchanging the signal before and in preparation for determining the collision probability. Thus, Koike does not disclose the recited claim limitation, "exchanging vehicle condition-defining signals between the first and second vehicles when the probability of the potentional collision is greater than a threshold value". Applicant's attention is directed to Para 0163, where Koike states, "As to threshold values for the judgment in the Processing S122, it is determined that the crash probability is, for example, 95%". Applicant's attention is further directed to Fig 8, Step 37,38 where the collision possibility is calculated and decision implemented in a continuous loop before, in preparation and after for determining the collision possibility. Further, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., exchanging signals after the collision probability is evaluated) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8. Applicant states Koike (US Pat Pub No 2003/00006889) fails to disclose transmitting signal after the probability of the potential collision is determined. Thus, Koike fails to disclose ," means responsive to determining for transmitting a first vehicle condition- defining signal

developed onboard the first vehicle to the second vehicle when the probability of the potential collision is greater than a threshold value"

Applicant's attention is directed to Para 0163, where Koike states, "As to threshold values for the judgment in the Processing S122, it is determined that the crash probability is, for example, 95%". Applicant's attention is further directed to Para 0150, 0155 where the equation 7 is used for a calculation determining means for probability implemented by the physical means of ECU114. Applicant's attention is further directed to Fig 8, Step 37,38 where the collision possibility is calculated and decision implemented in a continuous loop before, in preparation and after for determining the collision possibility. Further, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., exchanging signals after the collision probability is evaluated) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN JEN whose telephone number is (571)270-3274. The examiner can normally be reached on Monday - Friday 9:00-6:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ian Jen/
Examiner, Art Unit 3664

/KHOI TRAN/

Supervisory Patent Examiner, Art Unit 3664